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# Rocky Mountain Spotted Fever (RMSF) and Lyme Disease

### Rocky Mountain Spotted Fever (RMSF)

- **Cause**: RMSF is caused by the bacterium *Rickettsia rickettsii*, which is transmitted through the bite of an infected tick, such as the American dog tick, Rocky Mountain wood tick, or brown dog tick.

- **Symptoms**: Early symptoms include fever, headache, nausea, vomiting, muscle pain, and a characteristic rash that typically appears a few days after the onset of fever. The rash often starts

on the wrists and ankles and can spread to the trunk, palms, and soles.

- **Complications**: If not treated promptly, RMSF can lead to severe complications such as inflammation of the brain, heart, and lungs, kidney failure, and even death.

- **Treatment**: The primary treatment for RMSF is the antibiotic doxycycline, which is effective when administered early.

- **Prevention**: Preventive measures include avoiding tick-infested areas, using insect repellent, wearing protective clothing, and performing regular tick checks.

### Lyme Disease

- **Cause**: Lyme disease is caused by the bacterium *Borrelia burgdorferi* (and sometimes *Borrelia mayonii*), which is transmitted through the bite of infected blacklegged ticks, also known as deer ticks.

- **Symptoms**: Early symptoms include fever, headache, fatigue, and a distinctive skin rash called erythema migrans, which often looks like a bull's-eye. If left untreated, the infection can spread to joints, the heart, and the nervous system.

- **Complications**: Long-term complications can include severe headaches, arthritis, heart palpitations, and neurological issues such as facial palsy.

- **Treatment**: Lyme disease is typically treated with antibiotics such as doxycycline, amoxicillin, or cefuroxime.

- **Prevention**: Preventive measures include avoiding tick habitats, using tick repellents, wearing long sleeves and pants, and performing thorough tick checks after spending time outdoors.

Both diseases are serious and require prompt medical attention if symptoms appear after a tick bite.